

AMENDMENTS TO THE CLAIMS

1-8. (canceled)

9. (currently amended) A biodegradable hydrogel comprising a network of polymer chains, wherein said network contains polymer backbones which are interconnected to one another through spacers formed by crosslinked units, wherein the spacers contain, between said polymer backbone and the crosslinked unit, one or more bonds which are hydrolysable under physiological conditions,

wherein at least one of the bonds which are hydrolysable under physiological conditions comprises a carbonate ester bond;

wherein said crosslinked unit is comprised of a polymer of a) (poly)glycolic acid and/or (poly)lactic acid, in combination with and b) at least one monomer containing an acrylate, methacrylate and/or hydroxyalkyl methacrylate groups, wherein at least one of the groups is connected to the polymer backbone; and

wherein said polymer backbones are selected from the group consisting of dextran, derivitized dextran, starch, starch derivatives, hydroxyethyl cellulose, hydroxypropyl cellulose, polyvinylpyrrolidone, polyvinylalcohol, polyacrylate, polymethacrylate, and polyethylene glycol.

10. (canceled)

11. (currently amended) The hydrogel of claim 9, wherein said carbonate ester bond is derived formed from coupling crosslinkable units to said polymer backbone using carbonyl di-imidazole as a coupling agent.

12. (canceled)

13. (currently amended) The hydrogel of claim 9, wherein said polymer backbones in non-crosslinked form are derived from a water-soluble polymer.

14. (currently amended) The hydrogel of claim 11, wherein said polymer backbones in non-crosslinked form are derived from a water-soluble polymer.

15. (canceled)

16. (previously presented) The hydrogel of claim 13, wherein said water-soluble polymer is dextran or a derivatised dextran.

17. (previously presented) The hydrogel of claim 14, wherein said water-soluble polymer is dextran or a derivatised dextran.

18. (canceled)

19. (previously presented) The hydrogel of claim 9, further comprising a drug.

20. (previously presented) The hydrogel of claim 19, wherein the drug is a proteinaceous material.

21. (currently amended) A crosslinkable polymer composition capable of forming a hydrogel, comprising

a) a hydrophilic polymeric backbone, and

b) at least one spacer, the spacer comprising one or more bonds which are hydrolysable under physiological conditions and at least one crosslinkable group,

wherein at least one of the bonds which are hydrolysable under physiological conditions comprises a carbonate ester bond;

wherein said crosslinkable group is comprised of a polymer of i) (poly)glycolic acid and/or (poly)lactic acid, in combination with and ii) at least one monomer containing acrylate, methacrylate and/or hydroxyalkyl methacrylate groups; and

wherein said polymer backbone is selected from the group consisting of dextran, derivitized dextran, starch, starch derivatives, hydroxyethyl cellulose, hydroxypropyl cellulose, polyvinylpyrrolidone, polyvinylalcohol, polyacrylate, polymethacrylate, and polyethylene glycol.

22. (canceled)

23. (currently amended) The crosslinkable polymer composition of claim 21, wherein said carbonate ester bond is derived from spacer is reacted with a carbonyl-di-imidazole to form said carbonate ester bond between the polymer backbone and the crosslinkable unit.

24. (currently amended) The crosslinkable polymer composition of claim 21, wherein said polymeric backbone is derived from dextran or derivatised dextran.

25-26. (canceled)

27. (currently amended) A crosslinked polymer capable of forming a hydrogel, obtained by coupling the spacer to the polymeric backbone of claim 21 and crosslinking the crosslinkable resulting coupled polymer composition of claim 21.

28. (currently amended) A crosslinked polymer capable of forming a hydrogel, obtained by coupling the spacer to the polymeric backbone of claim 23 and crosslinking the crosslinkable resulting coupled polymer composition of claim 23.

29. (currently amended) A crosslinked polymer capable of forming a hydrogel, obtained by coupling the spacer to the polymeric backbone of claim 24 and crosslinking the crosslinkable resulting coupled polymer composition of claim 24.

30. (canceled)

31. (currently amended) A method for preparing a hydrogel, which method comprises coupling the spacer to the polymeric backbone as defined in claim 21, and crosslinking the ~~crosslinkable~~ resulting coupled polymer[[s]] composition as defined in claim 21 in an aqueous medium.

32. (currently amended) A method for preparing a hydrogel, which method comprises coupling each of two spacers to each of two polymeric backbones as defined in claim 21, and

crosslinking the at least two ~~crosslinkable~~ resulting polymers in an aqueous medium as defined in claim 21.

33. (currently amended) A method for preparing a hydrogel, which method comprises coupling each of two spacers to each of two polymeric backbones as defined in claim 23, and

crosslinking the at least two ~~crosslinkable~~ resulting polymers in an aqueous medium as defined in claim 23.

34. (currently amended) A method for preparing a hydrogel, which method comprises coupling each of two spacers to each of two polymeric backbones as defined in claim 24, and

crosslinking the at least two ~~crosslinkable~~ resulting polymers in an aqueous medium as defined in claim 24.

35. (canceled)

36. (previously presented) The method of claim 31, wherein a drug is present during the crosslinking step.

37. (previously presented) The method of claim 36, wherein the drug is a proteinaceous material.

38. (previously presented) The method of claim 32, wherein a drug is present during the crosslinking step.

39. (previously presented) The method of claim 38, wherein the drug is a proteinaceous material.

40. (new) The hydrogel of claim 21, wherein the acrylate, methacrylate, and/or hydroxyalkyl methacrylate groups that are positioned in a pendant or terminal position relative to the (poly)glycolic and/or (poly)lactic acid.

41. (new) The hydrogel of claim 21, wherein the acrylate, methacrylate, and/or hydroxyalkyl methacrylate groups that are positioned in the terminal position relative to the (poly)glycolic and/or (poly)lactic acid.